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RIGID BACKPACK

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26 E. BRIEF SUMMARY OF THE INVENTION

27 A rigid backpack for use in carrying item that should be cool such as food, canned or bottled
28 drinks, and so forth. The backpack includes at least one compartment and can include an upper
29 compartment and a lower compartment that are formed from rigid material such as plastic or
30 aluminum.

31 F. BRIEF DESCRIPTION OF THE DRAWINGS

32 FIG. 1 illustrates separable upper and lower compartments of a rigid backpack in accordance
33 with the invention.

34 FIG. 2 illustrates an upper compartment that is attached to a lower compartment to form a
35 rigid backpack in accordance with the invention.

36 FIG. 3 illustrates an embodiment of an integral rigid backpack having an upper compartment
37 and a lower compartment that share a common wall in accordance with the invention.

38 FIG. 4 illustrates an embodiment of a container mounted in an upper door in the upper
39 compartment of a rigid backpack in accordance with the invention.

40 FIG. 5 illustrates an embodiment of the lower compartment as a cooler in accordance with
41 the invention.

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43 G. DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

44 A description of a rigid backpack for use in carrying and storing items that require cooling or
45 are easily damaged, such as food, canned or bottle drinks and so forth, is provided. The rigid
46 backpack includes at least one compartment and can include upper and lower compartments. The
47 compartments are formed from rigid materials such as metal or formable plastics.

48 Separable lower and upper compartments of a rigid backpack are shown in FIG. 1. Generally,
49 the compartments are polyhedrals with flat or curved surfaces. Alternatively, the compartments can
50 have other shapes that are more spherical, have special design surfaces that reflect logos, and so

51 forth. The compartments are rigid, and can be formed from either a single layer of material or from
52 multiple layers. Non-rigid layers can be used in combination with other layers of material so long as
53 the overall combination of layers is rigid. For example, to insulate a compartment an outer metal
54 layer that is rigid can be combined with a less rigid insulating layer. The rigid material can include
55 metal, plastic, carbon fiber based materials, and so forth. The rigid material can be opaque or clear,
56 for example clear plastic.

57 The lower compartment 101 has a top wall 105 and a lower door 109. The lower door 109,
58 which can have a recessed latching mechanism, is used to access the space inside the lower
59 compartment 101. The lower compartment 101 can be formed with an insulating layer of material
60 and have a leak-resistant design so as to function as a cooler. Alternatively the lower compartment
61 101 can be formed from metal, such as aluminum or stainless steel, and used as a stove when
62 separated from the upper compartment 103 and when a heat source such as Sterno is placed inside.

63 The upper compartment 103 has a bottom wall 107, and an upper door 111. The bottom wall
64 107 of the upper compartment 103 and the top wall 105 of the lower compartment 101 have
65 complementary surfaces that allow the upper compartment 103 to stack on top of and be removably
66 attached to the lower compartment 101. The upper door 111, which can have a recessed latching
67 mechanism, is used to access the space inside the upper compartment 103. The upper compartment
68 103 can have cylindrical container holders 115, 117 mounted to or molded into a top 113. The upper
69 compartment 103 can be formed with an insulating layer of material and have a leak-resistant design
70 so as to function as a cooler.

71 A rigid backpack as formed by the attachment of an upper compartment and a lower
72 compartment is as shown in FIG. 2. Various means of attachment, such as clips, detents, springs,
73 dowels, zippers, snaps, Velcro, and so forth, can be used to secure the two compartments to each
74 other. Generally, when the two compartments are attached together, adjacent surfaces of the
75 compartments form a continuous surface. The surfaces that will be next to a person's back are

76 ergonomically formed. For example, a first surface 119 of the lower compartment 101 is
77 ergonomically formed as is a first surface 121 of the upper compartment 103. When the
78 compartments are attached together the compartment surfaces 119, 121 form an approximately
79 continuous surface that is ergonomically formed.

80 A waist strap 123 and optional lower padding 125 are attached to the first surface 119 of the
81 lower compartment 101. Similarly, a right shoulder strap 127, a left shoulder strap 129, and optional
82 upper padding 131 are attached to the first surface 121 of the upper compartment 103. Alternatively,
83 the waist and shoulder straps can be attached to other parts of the respective compartments. Support
84 members 133 are attached to a bottom of the lower compartment 101, and are used to facilitate the
85 standing of the lower compartment and the rigid backpack in an upright position when placed on a
86 surface such as on the ground. When the compartments are separated, the upper compartment 103
87 and shoulder straps 127, 129 form a rigid day pack 210, and the lower compartment 101 and waist
88 strap 123 form a rigid fanny pack 220.

89 A single integrated rigid backpack having an upper compartment and a lower compartment
90 that share a common wall in accordance with the invention is shown in FIG. 3. In this embodiment,
91 the upper compartment 103 and the lower compartment 105 are formed as a single integral backpack
92 300. The upper and lower compartments are attached to each other by a single common wall (not
93 shown). The common wall forms a top of the lower compartment 301 and a bottom of the upper
94 compartment 303. A lower door 309 allows access to the space inside the lower compartment 301.
95 Similarly, an upper door 311 allows access to the space inside the upper compartment 303.

96 An embodiment of a container mounted in an upper door in the upper compartment of a rigid
97 backpack is shown in FIG. 4. The container (not shown) that is attached to the upper door 111
98 extends into the upper compartment 130. The container is formed for the storage of small items such
99 as cigarette pack, lighter, sunglasses, or so forth that can be difficult to find or may be damaged if

100 placed inside either the upper compartment 103 or the lower compartment (not shown). An access
101 door 135 for the container is mounted in the upper door 111.

102 An embodiment of the lower compartment as a cooker is shown in FIG. 5. For this
103 embodiment the waist strap and padding are removed, and the lower compartment 501, which is
104 preferably constructed from metal, is positioned on a generally level surface. The lower
105 compartment 501 includes a lower door 503 and a cooking surface 507. This surface is used for
106 cooking, and in accordance with the invention is complementary in design to the bottom of an upper
107 compartment (not shown). With the lower door 503 open, a heat source 509, such as Sterno, are
108 placed inside the lower compartment 501 for use in cooking eggs 511 on the cooking surface 507.

109 An advantage of the present invention is the elimination of hand carrying a clumsy cooler.
110 The invention is particularly useful when faced with carrying a cooler over long distances, in
111 crowds, or where having hands free would be an advantage. A rigid backpack protects item like
112 food and beverages from being damage by being bumped or crushed from outside the backpack, and
113 a rigid lower compartment made of metal can be used as a stove. In addition, a rigid backpack
114 eliminates the need of framing as needed when soft materials are used to form the backpack.

115 The present invention may be embodied in other specific forms without departing from its
116 spirit or essential characteristics. The described embodiments are to be considered in all respects
117 only as illustrative and not restrictive. The scope of the invention is, therefore, indicated by the
118 appended claims rather than by the foregoing description. All changes that come within the meaning
119 and range of equivalency of the claims are to be embraced within their scope.

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